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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,397	08/28/2003	Brian Mitchell Bass	RAL919990139US2	6767
25299	7590	05/05/2005	EXAMINER	
IBM CORPORATION			LY, ANH	
PO BOX 12195				
DEPT 9CCA, BLDG 002				
RESEARCH TRIANGLE PARK, NC 27709			ART UNIT	PAPER NUMBER
			2162	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/650,397	BASS ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Anh Ly	2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 24 February 2005.  
2a) This action is **FINAL**.                    2b) This action is non-final.  
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 14-23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) Claim(s) \_\_\_\_\_ is/are allowed.  
6) Claim(s) \_\_\_\_\_ is/are rejected.  
7) Claim(s) \_\_\_\_\_ is/are objected to.  
8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
10) The drawing(s) filed on 08 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
    1. Certified copies of the priority documents have been received.  
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
    Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
    Paper No(s)/Mail Date. \_\_\_\_\_  
5) Notice of Informal Patent Application (PTO-152)  
6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office Action is response to Applicants' Amendment filed on 02/24/2005.
2. Claims 14-23 are pending in this application.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 14-23 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,404,752 of Allen, Jr. et al. (hereinafter Allen).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to claim 1, Allen teaches a pattern or key that is to be search (input hashed key is a pattern of the search in the direct table as shown in fig. 14 and col. 25, lines 48-60);

a direct table that stores a first address location for a search tree (see figs. 14, the search tree stored in the direct table with binary search in order to get the first search key pattern in the table: col. 25, lines 48-67 and col. 26, lines 1-65);

a plurality of pattern search control blocks that each represent a branch in the search tree (fig. 14 and fig. 15, the pattern search control block from the direct table, and traversing to the tree and ends up with a leaf: col. 25, lines 50-55); and

a plurality of leaves wherein each leaf is an address location for result of a search wherein said direct table is one of said plurality of data structures that is first accessed in conducting the search (fig. 15, a plurality of leaves, col. 27, lines 1-62).

With respect to claim 15, Allen teaches a lookup definition table that manages a tree search memory (control memory operation is controlled by lookup table: col. 7, lines 42-50).

With respect to claim 16, Allen teaches a plurality of data structures for finding the match wherein the lookup definition table comprise entries that define a physical memory that the tree resides in, a size of the key and leaf, and a type pf search to be performed (col. 55-67).

With respect to claim 17, Allen teaches wherein the lookup definition table is implemented in a plurality of memories (col. 7, lines 42-50 and col. 24, lines 36-67 and col. 25, lines 1-32; also see fig. 13).

With respect to claim 18, Allen teaches wherein a format for a direct table entry includes at least one of a search control block, a next pattern address that point to a next pattern search control block, a leaf control block address that points to a leaf or result; a next bit or bits to test; and a direct leaf (col. 25, lines 32-67 and col. 26, lines 1-18).

With respect to claim 19, Allen teaches wherein a format for a pattern search control block includes at least one of a search control block, a next pattern address that point to a next pattern search control block; a leaf control block address that points to a leaf or result', and a next bit or bits to test (col. 25, lines 32-67 and col. 26, lines 38-65).

With respect to claim 20, Allen teaches wherein a leaf data structure includes at least one of a leaf chaining pointer; a prefix length; a pattern to be compared to the search key; and variable user data (col. 21, lines 55-67 and col. 22, lines 1-18; also see col. 27, lines 20-35).

With respect to claim 21, Allen teaches wherein the direct leaf is stored directly in a direct table entry and includes a search control block and a pattern to be compared to a search key (col. 21, lines 55-67 and col. 22, lines 1-18).

With respect to claim 22, Allen teaches wherein a pattern search control block is inserted in the search tree at a position where the leaf patterns differ (the tree search engine is used to search and retrieve information, it is also for inserting and deleting operation based on the key, the pattern search key: col. 25, lines 32-35).

With respect to claim 23, Allen teaches wherein a pattern search control block has a shape defined by a width d one and a height of one and is stored in a memory that has a line length of at least 36 bits (col. 37, lines 10-65).

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ly whose telephone number is (571) 272-4039 or via E-Mail: [ANH.LY@USPTO.GOV](mailto:ANH.LY@USPTO.GOV) or fax to (571) 273-4039. The examiner can normally be reached on TUESDAY – THURSDAY from 8:30 AM – 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on (571) 272-4107 or Primary Examiner Jean Corrielus (571) 272-4032.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, or faxed to: Central Fax Center (703) 872-9306

ANH LY  
APR. 29<sup>th</sup>, 2005



JEAN M. CORRIELUS  
PRIMARY EXAMINER